

Application No.: 10/723510

Case No.: 59369US002

REMARKS

Claims 1 to 26 are pending. No claims have been canceled. No claims have been withdrawn from consideration. No claims have been added. Claim 1 is amended to correct typographical errors, as suggested by the Examiner, and to add a subscript to the R_f group in the formula. Claim 18 is amended to add a subscript of the R_f group in the formula.

Brief Statement of the Invention

The instant invention is directed to a composition for imparting repellency and antisoiling properties to substrates, particularly fibrous substrates (page 1, lines 4-8). As noted on page 1, lines 30-32, fluorochemical have been used to provide repellency properties to fibrous substrates, however it is recognized in the art that they provide little or no antisoiling without degradation of the repellency.

§ 103 Rejections

Claims 1-26 stand rejected under 35 USC § 103(a) as being unpatentable over U.S. 5,726,175 (Dams et al). The rejections are traversed.

The Office Action asserts that Dams et al. disclose fluorochemical oligomeric compounds that fall within the scope of the instant oligomeric compound of instant claim 1, part a), but admits the reference does not disclose the combination of an antisoiling compound, of claim 1, part b). Dams et al. teach compounds of the formulas $(A-Z)_nR$ and $A(Z-R)_n$, where A is a fluorochemical oligomeric portion, Z is an isocyanate-derived linking group, and R is an organic moiety. The oligomer is illustrated at reference column 5, line 30 to column 6, line 16. The compositions of Dams et al. may be used to provide desirable properties such as soft hand, stain release and water repellency to fibrous substrates such as textiles and carpeting.

Dams et al. describe a broad class of fluorochemical oligomers, which may comprise units derived from both fluorinated and non-fluorinated monomers. At least one substituent R_1 , R_2 , R_3 , Q, E or R of Dams et al. must impart soft hand, stain release, water repellency or a durable property when the compound is applied to a fibrous substrate. In this regard, Examiner's attention is directed to column 6, lines 11-17, column 6, lines 38 to 43, and column

Application No.: 10/723510

Case No.: 59369US002

10, line 19 to column 11, line 43 to column 6, line 4, column 6, lines 61-65 and column 9, line 54 to column 11, line 4. Such functional groups are absent from Applicants claims. Thus the instant oligomers may be distinguished in lacking a requisite feature of the oligomers of Dams et al.

Ignoring the limitation of “at least one substituent R_1 , R_2 , R_3 , Q, E or R must impart soft hand, stain release, water repellency or a durable property”, Dams et al. describe a broad class of fluorochemical compounds, requiring one skilled in the art to select Applicant’s narrower class, to provide the necessary repellency, and which could further provide antisoiling without significant degradation of the repellency. In particular, note that claim 1 has the limitation that “at least one of said R^2 and R^5 groups has 12 or more carbons”. The instant R^2 may be compared to the R group of Dams et al., and the instant R^5 may be compared to the R_3 of Dams et al. The R_3 of Dams et al. is defined on column 5, lines 51-53 as “hydrogen, halogen, or an organic group, such as a carboxyl group or an alkyl carboxylate group”. Thus R_3 cannot have the requisite alkyl of 12 or more carbon atoms. Further, the R group of Dams et al is defined on column 9, lines 26-68 as including a broad range of possible structures, and no clear teaching of Applicant’s limitation.

Clearly, Dams et al. provide no teaching for making Applicant’s selection of the claimed fluorochemical oligomeric compounds, and further no motivation for providing an antisoiling agent to the composition.

The Office Action correctly notes that Dams et al. do not teach or suggest the use of antisoiling agents, but suggest that the reference discloses “as additives, several compounds that can also serve as antisoiling compound”. Applicants disagree.

The Examiner is apparently referring to the reference disclosure at column 25, lines 3-14 that disclose optional additives. None of those listed would serve as antisoiling agents. Further, at reference column 25, lines 15 to 24, the reference teaches:

Besides application in oilproofing and waterproofing substrates, and in providing anti-adhesion properties, the compositions of the invention can also be used to protect substrates against solvents or certain aggressive chemicals. They can be used on textiles, paper, or leather in order to impart properties such as stain resistance, soil resistance, soil release, and stain release. They can also be used for

Application No.: 10/723510

Case No.: 59369US002

obtaining particular properties such as antistatic, antipilling, mold release, corrosion inhibition or anti-fouling properties. (Emphasis added).

Dams et al. explicitly teach that the described fluorochemical compounds impart a measure of soil resistance and soil release to fibrous substrates. In view of the clear teachings, one would not be motivated to add additional antisoiling compounds to the compositions of Dams et al. because of the expectation that such an addition would degrade the repellency.

The rejection of claims 1-26 under 35 USC § 103(a) as being unpatentable over U.S. 5,726,175 (Dams et al) has been overcome and should be withdrawn. Claims 2-26 each add additional features to claim 1. Claim 1 is patentable for the reasons given above. Thus, claims 2-26 are likewise patentable.

In view of the above, it is submitted that the application is in condition for allowance. Reconsideration of the application is requested. Allowance of claims 1-26 as amended, at an early date is solicited.

Respectfully submitted,

Date

January 13, 2006

By:



Kent S. Kokko, Reg. No.: 33,931
Telephone No.: 651-733-3597

Office of Intellectual Property Counsel
3M Innovative Properties Company
Facsimile No.: 651-736-3833